

*Ch...*  
*Secy*  
*Engrs*

Sec. 4. II-27-59,000-4-1-52.

# H E LA (1955) Department.

MSERIES.

G.O. NO. 1906. Health

*2.8*

Dated

*3-6-55*

[Despatch Abstract.]

Water Supply — Mangalore  
Municipality — water supply scheme  
with Netravathi river as source —  
Revised estimate — Sanctioned.

*—*

Public Works

Department

Received

Registered

From (Name)

To

Designation

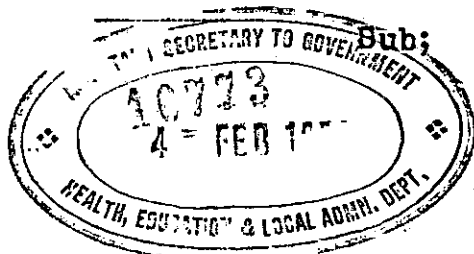
The Secretary to Government,  
Health, Education & Local Admini-  
stration Department,  
Fort. St. George, Madras. 9

Station P.B.No.410

Enclosures :

No. 4666 PH1/55-1 dated 1st February 1955.

Sir,



Sub; Mangalore Water Supply Scheme with Nethravathi River as source - Revised estimate for Rs.84.43 lakhs - Revised administrative approval of Government - requested.

Ref: 1. G.O.Ms.No.1304 Health d/7/4/53.  
2. G.O.Ms.No.626 Health d/16/3/54.

p77 (S)  
p9 (M)

p77 (S)

In G.O.Ms.No.1304 Health dated 7/4/1953 Government sanctioned an approximate estimate for Rs.82.85 lakhs for the Mangalore Water Supply Scheme with Nethravathi river as the source.

pp 3-8 of 7  
(M)

2. In Sanitary Engineer's No.24767-W2/53-2 dated 9-2-54, a comparative Statement was furnished showing the costs of the Water Supply Scheme for Mangalore, worked out on the basis of a 20 gallons, 15 gallons and 10 gallons supply. No plans and estimates were submitted by the Sanitary Engineer in support of the lump sum provisions made in the comparative Statement. These provisions were not susceptible of any check and were forwarded to Government on the responsibility of the Sanitary Engineer - vide Endorsement to the Sanitary Engineer in No.709 PH/54-1 dated 27/2/1954 (copy enclosed). Based on the figures furnished by the Sanitary Engineer, a 15 gallon scheme for Mangalore Municipality was recommended to Government in this office No.709 PH/54-1 d/27-2-1954.

origl at plct  
p1 of (M)

p9 (M)

p77 (S)

3. In G.O.Ms.No.626 Health dated 16/3/1954, Government, accepted the proposal of a 15 gallon per capita supply estimated to cost Rs.68.55 lakhs in lieu of the 20 gallon scheme already sanctioned administratively in G.O.Ms.No.1304 H dated 7/4/1953.

4. In Sanitary Engineer's No.5409 W2/54-2 dated 2/6/54 the Sanitary Engineer, requested the Chief Engineer to obtain a revised administrative sanction of Government for the 15 gallon scheme estimated to cost Rs.68.55 lakhs. In this office Memo No.709 PH/54-11 dated 30/8/54 it was pointed out to the Sanitary Engineer that it was considered desirable to approach Government for a revised administrative sanction for the Mangalore Water Supply Scheme, only after detailed plans and Estimates for all the components of the scheme were prepared. Accordingly the Sanitary Engineer, was instructed to prepare detailed plans and estimates for the work.

5. The Sanitary Engineer has now submitted plans and estimates for four stages of the Mangalore Water Supply scheme on the basis of 15 gallon rate of supply. These estimates total to Rs.84.09 Lakhs. A few corrections and additions have been made in this office and the total estimated cost of 15 gallon scheme has been worked out to Rs.88.23 lakhs.

6. Technical sanction for the 1st two stages estimated to cost Rs.46.00 lakhs has been accorded by me. As the amount of

p.t.o.

pg ①

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2.2.55

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Mangalore Water Supply  
Comparative Statement showing the  
the approximate estimate and the detailed

| S.No.                                                                                                           | Details. | Stage in<br>Which de-<br>tailed est<br>was submit |
|-----------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------|
| 1.                                                                                                              | 2.       | 3.                                                |
| 1. (a) Land Acquisition for Head works.                                                                         |          | II                                                |
| (b) -de- Treatment works.                                                                                       |          | IV                                                |
| (c) -de- Pumping main.                                                                                          |          | I                                                 |
| 2. Raw water intake well with draw-off arrangements and suction pipe line between intake well and suction well. |          | II )                                              |
| 3. Suction well cum pump house for raw-water lifts.                                                             |          | " )                                               |
| 4. Bye-pass (not contemplated before)                                                                           |          | "                                                 |
| 5. Supply, delivery and erection of low lift pumps in duplicate with necessary accessoires.                     |          | "                                                 |
| 6. Pipe connections for low-lift pumping plant.                                                                 |          | "                                                 |
| 7. Construction of earthen basin for presettlement for 24 hours capacity                                        |          | "                                                 |
| 8. Construction of pump house for high lift pumps                                                               |          | "                                                 |
| 9. Supply, delivery and erection of high lift pumps with necessary accessories in duplicate.                    |          | "                                                 |
| 10. Pipe connections for high lift pumps.                                                                       |          | "                                                 |
| 11. Stores and laboratory at Headworks.                                                                         |          | "                                                 |
| 12. Pumping main -supply of pipes, laying and jointing.                                                         |          | I                                                 |
| 13. Filtration plant in the town, chemical house flocculation, Coagulation tanks etc. complete.                 |          | IV                                                |
| 14. Service reservoir cum clear water reservoir.                                                                |          | IV                                                |
| 15. Distribution system.                                                                                        |          | III                                               |
| 16. Supply, delivery and erection of booster pumping plants.                                                    |          | III                                               |
| 17. Venturimeter, Chloronome plant and water testing equipments.                                                |          | IV                                                |
| 18. Telephone connections from Head works, reservoir, etc.                                                      |          |                                                   |
| 19. (a) Quarters for the staff at Headworks.                                                                    |          | II                                                |
| (b) Watchman's quarters at Headworks and filter works.                                                          |          | II & IV-1<br>pectively.                           |
| 20. Purchase of lorry, jeep and lifting machinery etc.                                                          |          | I                                                 |
| 21. Unforeseen items at 4%                                                                                      |          |                                                   |
| 22. Contingencies at 5%                                                                                         |          |                                                   |
| p. Centage charges at 15½%                                                                                      |          |                                                   |
| m. Deduct (Credit for materials) on item 20 above.                                                              |          |                                                   |
| Grand total.                                                                                                    |          |                                                   |

Scheme.  
 difference in cost between  
 plans and estimate for a 15 gallons scheme.

| Estimate<br>No.  | Cost as per the          |                       | More.     | Less.     | Remarks.                                                                  |
|------------------|--------------------------|-----------------------|-----------|-----------|---------------------------------------------------------------------------|
|                  | Approximate<br>estimate. | Detailed<br>estimate. |           |           |                                                                           |
|                  | 4.<br>Rs.                | 5.<br>Rs.             | 6.<br>Rs. | 7.<br>Rs. | 8.                                                                        |
|                  | 15,000                   | 20,000                | 5,000     |           |                                                                           |
|                  | 10,000                   | 10,000                |           |           |                                                                           |
|                  | 20,000                   | 30,000                | 10,000    |           |                                                                           |
|                  | 58,000                   | 49,200                | 28,200    |           |                                                                           |
|                  |                          | 37,000                |           |           |                                                                           |
| not contemplated | 21,500                   | 21,500                |           |           |                                                                           |
|                  | 50,000                   | 1,49,500              | 79,500    |           |                                                                           |
|                  | 20,000                   |                       |           |           |                                                                           |
|                  | 18,000                   | 35,500                | 17,500    |           |                                                                           |
|                  | 22,000                   | 35,000                | 13,000    |           |                                                                           |
|                  | 2,00,000                 | 1,79,100              |           | 30,900    |                                                                           |
|                  | 10,000                   |                       |           |           |                                                                           |
|                  | 10,000                   | 10,000                |           |           |                                                                           |
|                  | 27,90,000                | 30,42,516             | 2,52,516  |           |                                                                           |
|                  | 8,00,000                 | 6,59,000              | 1,60,500  |           |                                                                           |
|                  | 2,25,000                 | 3,01,500              |           |           |                                                                           |
|                  | (3+1.65)                 | 4,65,000              | 2,40,000  |           | *Future Extension.                                                        |
|                  | 11,00,000                | 18,57,000             | 7,57,000  |           |                                                                           |
|                  | 15,000                   | 22,000                | 7,000     |           |                                                                           |
|                  | 12,000                   | 14,000                | 2,000     |           | Rs.1000 added for ventimeter <sup>as</sup> no provision is made for this. |
|                  | 20,000                   | 20,000                |           |           | Rs.20,000/- added now as no provision is made for this.                   |
|                  | 15,000                   | 17,700                | 2,700     |           |                                                                           |
|                  | 5,000                    | 6,700                 | 1,700     |           |                                                                           |
|                  | 30,000                   | 37,000                | 7,000     |           |                                                                           |
|                  | 54,45,000                | 70,19,216             | 16,05,116 | 30,000    |                                                                           |
|                  | 2,17,800                 | 2,80,769              | 62,969    |           |                                                                           |
|                  | 2,72,250                 | 3,50,961              | 78,711    |           |                                                                           |
|                  | 59,35,050                | 76,50,946             | 17,46,946 | 30,900    |                                                                           |
|                  | 9,12,933                 | 11,85,897             | 2,65,964  |           |                                                                           |
|                  | 68,54,983                | 88,36,843             | 20,12,760 | 30,900    |                                                                           |
|                  |                          | - 14,726              |           | 14,726    |                                                                           |
|                  | 68,54,983                | 88,22,117             | 20,12,760 | 45,626    |                                                                           |
| or 68.55 lakhs   | 68,54,983                |                       | 45,626    |           |                                                                           |
|                  |                          | 19,67,134             | 19,67,134 |           |                                                                           |
|                  |                          | or 88.23 lakhs.       |           |           |                                                                           |

24/2  
 For Chief Engineer, P.W.D. (GENL. & BLDGS) (p.t.c.)  
 2.2.51

- - - - - COST OF SCHEME Excluding the cost of future extension for

- - - - - Deduct cost of ~~interests~~ Future extension for - - - - -  
Treatment works.

Centage charges at 15  $\frac{1}{2}$ %

Grand total.

or

▼sb/2/2

Wes/22

1  
7  
8  
9  
10  
11  
12  
B.  
14  
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16  
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18  
19  
20  
21  
22  
3.  
4.

treatment works.-----

Rs.70,19,216.

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- 3,01,500.

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67,17,716.

2,68,709

3,35,886

-----

73,22,311.

11,34,958

-----

84,57,269 ..

- 14,726

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84,42,543

say 84.43 lakhs.

4/ HELA.  
46

TM no 10773 H6. 55-1 d 2.3.55  
~~Memorandum~~

From the Joint Secretary to Govt.

HELA Dept

To the Chief Engineer, PWD (gl)

Subj: Water supply - Mangalore

Water supply Scheme - Revised  
Estimate.

Ref: ~~Ref~~ your letter no. 4666-PH  
SS-1 dated 1.2.55

SS-1 dated 1.2.55

Please forward urgently

a copy of the Sanitary Engineer's

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6/3/55

joined  
de

2/3/55

pp 14.6  
1/80

PC to go

para 2 - pt of

b//

Encl. no. 709-PH-24-1 dated  
27.2.54, as it has not  
been received along with  
your reference.

b//  
27.2.54  
aw  
1.3.55  
aw  
27.4.55

PUBLIC WORKS Department

From (Name)

Designation: U. A. (Ind.), M.A. (Ind.)

Chief Engineer, P.W.D., (General & Buildings)  
Chepauk, Madras-5.  
P.B.No.410.

Received

Registered

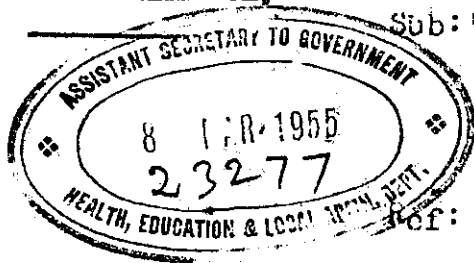
To

The Secretary to Government.  
Health, Education and Local  
Administration Department,  
Fort St.George.

Enclosures:

No. 4666 PH1/55-3 dated 4th March 1955.

Sir,



Sub: Water Supply - Mangalore Water Supply Scheme with Nethravathi river source - revised estimate for 84.43 lakhs - copy of Sanitary Engineer's letter dt.9-2-54 furnished.

Ref: Government Telephonic Message No.10773-VI/55-1 dated 2-3-55.

b8 wjz

I enclose a copy of Sanitary Engineer's letter No.24767-W2/53-2 dt.9-2-54 sent with this office letter No.709 PH/54-1 dt.27-2-54.

*him nam*

for Chief Engineer, P.W.D. (Genl.&Bldgs.).  
Encl: A copy of San. Engr.'s letter No.24767-W2/53-2 dt.9-2-54 and a copy of statement.

VB/5-3.

26/1

Copy of letter No. 24767-W2/53-2 dt. 9-2-1954 from the Sanitary Engineer, Madras, to the Chief Engineer, Genl. & Bldgs, Madras.

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Sub: Water Supply Scheme - Mangalore Municipality  
Neuravathi source - proposed change in the  
per capita rate of supply - orders - requested.

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Ref: My Special Note accompanying my letter No.  
24767-W5/53-1 dated 8-1-1954.

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In view of the financial stringency at present and the difficulties in the way of financing costly Municipal Water Supply Schemes under prevailing conditions, I have reexamined the details of the Mangalore Water Supply Scheme as sanctioned in order to see whether we could effect any worthwhile economy in the total cost of the scheme without at the same time sacrificing any essential utility value in the scheme as envisaged. About 20,000' of 20" diameter 'C' Class spun iron pipes only have already been secured for the scheme. The design of the other components of the scheme is in progress and we are yet to make arrangements for procuring the pipe quantities required for this scheme. It is not therefore too late now to incorporate any changes in the scope of the design, should they be considered necessary in the interest of economy and expeditious execution of the scheme. I would explain the position as under:--

(i) In para 19 of the report on the investigation of the scheme submitted by the Sanitary Engineer in 1946 it is stated:

"The Municipal Council, Mangalore in its resolution No. 56, dated 11th June 1945, decided to have a fifteen gallons scheme for the whole town. Assuming 16 hours pumping as usual the source should be capable of yielding 2,735 gallons per minute to serve the ultimate population in 1981. By increasing the hours of pumping upto 24, it may be possible to increase the per capita supply to 22½ gallons when the ultimate population is realised. This rate would compare favourably with the figure of 25 to 30 gallons recommended by the Bhoré Committee".

(ii) Again in para 30 of the Investigation Report which dealing with the approximate cost of the scheme it is stated:

"If the rate of supply per head per day is to be increased as recommended in the Bhoré Committee report (vide also Chief Engineer's letter to Government recommending 25 to 30 gallons in large urban units) by pumping for 24 hours the capital cost will be Rs. 49,90,000/- and the maintenance charge of Rs. 65,000/- and Rs. 82,000/- respectively for the ultimate population in 1966 and 1981 assuming 24 hours pumping instead of the usual 16 hours".

(iii) But while forwarding the investigation report to the Government with his remarks, the Chief Engineer wrote as under:

"(1) Rate of Water Supply: In 1945 the Mangalore Municipality resolved to have a 15 gallons scheme. The proposals accordingly provide for a 15 gallons scheme with 16 hours pumping with the idea that by increasing the pumping hours to 24 the rate of supply could be increased to 22½ gallons per head per day when such increase is found desirable. For an infiltration source, 24 hours pumping should be avoided as sufficient time for recuperation should be allowed. In this case the number of hours of

pumping

pumping may be restricted to 20 hours allowing 4 hours time for recuperation. If the recommendations of the Shore's Committee report are to be followed, a rate of supply of 25 gallons per head per day at least should be provided but this being an infiltration source with limitations of yield it is enough if the scheme is designed for a 20 gallons supply with 20 hours pumping to serve an ultimate population of 1,75,000 for Mangalore Municipality. For villages en route a supply of 5 gallons per capita as assumed in the report may be adopted being rural parts".

(iv) The Municipal Council, Mangalore, agreed to the recommendations of the Chief Engineer and accordingly Government ordered the preparation of plans and estimates for the scheme based on a 20 gallon supply.

(v) Subsequently, when the Gulpur source was abandoned in favour of the Netravathi surface source, the scope of the scheme as originally sanctioned was not sought to be altered at that stage, and details for the scheme with Netravathi as the source were proceeded with on the same basis on which the scheme with the Gulpur source had been sanctioned.

bio ypa  
2. I enclose a comparative statement showing the cost of the Water Supply Scheme for Mangalore worked out on the basis of a 20, 15 and 10 gallon per capita rate of supply. The figures of cost against the several items of work as shown are comparable to the figures already provided for in the approximate estimate of Rs.82.85 lakhs for which administrative approval has been accorded by the Government in respect of the 20 gallon scheme.

3. It will be seen that by adopting a 15 gallon scheme at the present stage we shall be able to save about Rs.14.30 lakhs from what it would cost us if we were to provide a 20 gallon scheme for the town. I have also indicated the cost of a 10 gallon scheme in order to assess the relative savings possible by cutting down the per capita supply. It may not however, be expedient to consider a 10 gallon scheme for Mangalore at the present stage.

4. I consider that having regard to all the special circumstances relevant to the issue, the provision of a 15 gallon scheme for Mangalore should be sufficient and satisfactory from all stand points. The Town has abundant and normal monsoon rains and for many months in the year the supply available from local wells is plenty and dependable. The Municipal population may not be in need of a 20 gallon supply all the year round as a normal routine. As decided by the Municipal Council, originally, there should be no objection locally to change the scope of the scheme at the present stage from a 20 to 15 gallon scheme if thereby a substantial saving of about Rs.14 lakhs is going to result and to that extent the execution of the scheme could also be speeded up. The partial drainage scheme for Mangalore which has already been investigated is also to be taken up for execution under the first Five Year Plan and funds will have to be found for executing that scheme side by side with the water supply scheme for the town. Any saving in the cost of water supply scheme will mean so much relief found for financing the drainage scheme.

5. As however, the issue is a major one, I request you to address the Government in the matter and let me have final orders as soon as possible.

sd/xxx  
for Sanitary Engineer.

Encl: 1 statement.

|     |                                                                                              |                                      |                                |  | (1)                                                                                                                                  | (2)                                                                                                                                     | (3)                                                                                                                                   | (4)                             | (5)                                                        |
|-----|----------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------------|
| 1.  | Land Acquisition for Headworks.                                                              |                                      |                                |  | Popln. 1,75,000<br>Supply 20 G.P.C.D.+<br>Enroute villages<br>2.0 lakhs +<br>Industrial 3.0 lakhs<br>T.D.Supply 40.0 .do<br>gallons. | Popln. 1,75,000<br>Supply 15 G.P.C.D.+<br>Enroute villages<br>2.0 lakhs +<br>Industrial 2.25 lakhs<br>T.D.Supply 30.5 lakhs<br>gallons. | Population 1,20,000<br>Supply 10 G.P.C.D.<br>Enroute villages +<br>1.5 lakhs<br>Industrial 1.5-lakhs<br>T.D.Supply 15.0 "<br>gallons. |                                 | REMARKS.                                                   |
| 2.  | -do-<br>Teatment works.<br>-do-<br>Pumping Main.                                             | 15,000<br>10,000<br>5,000            | 15,000<br>10,000<br>20,000     |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       | 15,000<br>10,000<br>20,000      |                                                            |
| 2.  | Raw Water intake well - Construction with<br>draw off arrangements.                          | 30,000                               |                                |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       |                                 | As per the sanctioned<br>estimate for the<br>Pumping Main. |
| 3   | Suction well cum pump house for raw water<br>lifts.                                          | 15,000                               | 58,000                         |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       | 40,000                          |                                                            |
| 4   | Suction pipe line between intake well and<br>suction well.                                   | 15,000                               |                                |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       |                                 |                                                            |
| 5.  | Supply, delivery and erection of low-lift pumps<br>in duplicate with necessary accessories.  | 25,000<br>(2 sets of 45 H.P.)        | 5<br>(2 sets of 90 H.P.)       |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       | 25,000<br>(2 sets of 41 H.P.)   |                                                            |
| 6.  | Pipe connections required for low-lift<br>pumping plant.                                     | 10,000                               | 20,000                         |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       | 10,000                          |                                                            |
| 7.  | Construction of earthen basin for presettlement<br>for 24 hours capacity.                    | 20,000                               | 18,000                         |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       | 12,000                          |                                                            |
| 8.  | Construction of pumphouse for high lift pumps.                                               | 25,000                               | 22,000                         |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       | 20,000                          |                                                            |
| 9.  | Supply, delivery and erection of high lift<br>pumps with necessary accessories in duplicate. | 2,00,000<br>(2 sets of 350 H.P.each) | 2,00,000<br>(2 sets of 340 HP) |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       | 1,20,000<br>(2 sets of 130 H.P) |                                                            |
| 10. | Pipe connections for high lift pumps.                                                        | 10,000                               | 10,000                         |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       | 8,000                           |                                                            |
|     |                                                                                              | 3,80,000                             | 4,23,000                       |  |                                                                                                                                      |                                                                                                                                         |                                                                                                                                       | 2,80,000                        |                                                            |

|                                                                                                                 | (1)     | (2)                            | (3)                                | (4)                                 | (5) |
|-----------------------------------------------------------------------------------------------------------------|---------|--------------------------------|------------------------------------|-------------------------------------|-----|
|                                                                                                                 | B.F. .. | 3,80,000                       | 4,23,000                           | 2,80,000                            |     |
| 11. Stores and laboratory at Headworks.                                                                         |         | 10,000                         | 10,000                             | 10,000                              |     |
| 12. Pumping main - supply of pipes, laying and jointing.                                                        |         | <u>34,66,000</u><br>20" size.  | <u>27,90,000</u><br>20" & 18" size | <u>24,15,000</u><br>20" & 15" size. |     |
| 13. Filtration plant in the town, chemical house, flocculation, <del>mgm</del> coagulation tanks etc. complete. |         | 10,00,000                      | 8,00,000                           | 5,00,000                            |     |
| 14. Service Reservoir cum clear water reservoir.                                                                |         | 3,00,000                       | 2,25,000                           | 1,10,000                            |     |
| 15. Distribution system.                                                                                        |         | 13,00,000                      | 11,00,000                          | 9,50,000                            |     |
| 16. Supply, delivery and erection of booster pumping plants.                                                    |         | 15,000                         | 15,000                             | 10,000                              |     |
| 17. Venturi Meter, Chloronome plant and water testing equipments.                                               |         | 15,000                         | 12,000                             | 10,000                              |     |
| 18. Telephone connections from headworks, reservoirs etc.                                                       |         | 20,000                         | 20,000                             | 20,000                              |     |
| 19. (a) Quarters for the staff at Headquarters.                                                                 |         | 15,000                         | 15,000                             | 15,000                              |     |
| (b) Watchman's quarters at Headworks and filter works.                                                          |         | 5,000                          | 5,000                              | 5,000                               |     |
| 20. Purchase of Lorry, Jeep and Lifting machinery etc.                                                          |         | 30,000                         | 30,000                             | 30,000                              |     |
|                                                                                                                 |         | <u>65,56,000 +</u><br>25,000 * |                                    |                                     |     |
| 21. Unforeseen items at 4%                                                                                      |         | 65,81,000                      | 54,45,000                          | 43,55,000                           |     |
| 22. Contingencies at 5%                                                                                         |         | 2,63,000                       | 2,17,800                           | 1,74,200                            |     |
|                                                                                                                 |         | 3,20,000                       | 2,72,250                           | 2,17,750                            |     |
| 23. Centage charges at 15 1/2%                                                                                  |         | 71,73,000                      | 59,35,050                          | 47,46,950                           |     |
|                                                                                                                 |         | 11,12,000                      | 9,19,933                           | 7,35,777                            |     |
| Grant Total ...                                                                                                 |         | 82.85 lakhs.                   | 68.55 lakhs.                       | 54.83 lakhs.                        |     |

Rs.25,000/- provided for the construction of high lift pumphouse as per item 10(b) of appendix IV. of the estimate submitted by Chief Engineer to Government is a repetition.

/True copy/

2/27/55  
41105

12

|                         |                                                      |                                                                                          |            |
|-------------------------|------------------------------------------------------|------------------------------------------------------------------------------------------|------------|
| Public Works Department |                                                      | Received                                                                                 | Registered |
| From (Name)             | Sri U. Ananda Rao, B.E.,<br>M.I.E., M.ASCE., I.S.E., | To                                                                                       |            |
| Designation             | Chief Engineer, P.W.D.<br>(General & Buildings),     | The Secretary to Government,<br>Health, Education and<br>L.A. Dept.,<br>Fort St. George. |            |
| Station                 | Chepauk, Madras-5.                                   |                                                                                          |            |

Enclosures: No. 4666 PH-1/55-3 dated 25th April 1955

Sir,

Mangalore Water supply scheme with Nethravathi river as source - revised estimate for revised administrative approval of Government - regarding -

plant Ref: My letter No. 4666 PH-1/55-1 dated 1-2-1955.  
...

With reference to my letter to Government quoted above (a copy of which was communicated to the Sanitary Engineer for information), the Sanitary Engineer has addressed a letter to me with a request that the 'factors' mentioned by him therein may be brought to the notice of Government. A copy of that letter (No. 3000 W2/55-1 dated 18-2-1955) is enclosed. \* It may be observed therefrom that it is in the nature of a 'rejoinder' or a 'counter-affidavit'. Although no remarks were called for from the Sanitary Engineer in respect of the report sent by me to Government, he has sent the letter referred to with the preamble that "it would appear as if the background of the case has not been correctly appreciated" (by me).

2. The P.W.D. Code rules prescribe (vide para 113 of the Madras P.W.D. Code) that estimates should be prepared based on schedule of rates current for the year. The Sanitary Engineer did not adopt this practice in the preparation of the estimates for the Mangalore Watersupply scheme. Instead, he has stated that the cost of the scheme with Nethravathi as the source was derived from the estimate sanctioned in 1949 for the scheme with Gurpur river as the source. On this basis, the approximate cost of the 15-gallon scheme - accepted by Government - was reported to be Rs. 68.55 lakhs, while the correct cost of the scheme based on current schedule of rates comes to Rs. 88.23 lakhs as reported in my letter No. 4666 PH-1/55-1 dated 1-2-1955.

3. The Sanitary Engineer, when he submitted detailed estimates for the full scheme amounting to Rs. 84.09 lakhs (vide para 5 of my letter No. 4666 PH-1/55-1 dated 1-2-1955 cited above), had omitted to make provision for a portion of the filter plant originally included in the estimate approved by Government in G.O. Ms. No. 626 Health dated 16-3-1954. Provision for this was made in my office to rectify the omission, thereby bringing the total cost of the scheme to Rs. 88.23 lakhs. The Sanitary Engineer's statement (in paragraph 9 of his letter under reference) that provision amounting to about Rs. 3.77 lakhs has been included in the scheme cost of Rs. 88.23 lakhs as revised and reported by me towards 'future extension' of the filter plant and his remark that "it is an unusual procedure to seek administrative sanction for a scheme with provision included for items which will not come up for execution for some fifteen years" are unwarranted. The whole scheme as envisaged and already approved, is for serving the needs of an ultimate population as precast for some 30 years hence and not merely for meeting present-day requirements. The filter plant also has been designed on this basis only and it has already been included in the sanctioned scheme. The Sanitary Engineer had omitted to

to make adequate provision for it while submitting detailed estimates and as already mentioned above, this omission, was rectified by my office. There has therefore been no deviation in this regard from the scheme as already designed and approved and no 'unusual procedure' has been followed in seeking the revised administrative approval of Government.

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2.14  
4. In making a departure from the observance of Code rules prescribed for the preparation of estimates for the Mangalore Watersupply scheme with Nethravathi as source, the Sanitary Engineer has made a serious error in departmental practice; and by doing so, the correct and proper financial aspects of the scheme were not brought to the notice of Government and the municipality concerned. The explanation given by the Sanitary Engineer in paragraphs 5 and 7 of his letter as to how and why he had worked out the cost of the 15-gallon scheme with Nethravathi as source is ludicrous. It defies understanding how ~~such~~ by such a method of estimating the cost of the scheme, the Municipal Council could have had the "benefit of a correct lead in the matter". On the other hand, the Municipal Council and anybody else for that matter, would only have been misled to believe, in the absence of specific indication, that the cost of 15-gallon Nethravathi scheme reported as Rs.68.55 lakhs in February 1954 by the Sanitary Engineer was based on the then prevailing rates for materials etc. In the circumstances, the Sanitary Engineer's 'declaration' (in paragraph 6 of his letter) that he "assumed no more responsibility in regard to the estimated cost of the 15-gallon scheme (with Nethravathi source)", which he had furnished in 1954, "than in regard to the estimated cost of the scheme forecast for the Gurpur source and approved by the Chief Engineer" (which was in 1949) is quite revealing and needs no further comments from me.

*W. A. ...*  
Chief Engineer, P.W.D.

Enc. Copy of Sany. Engr.'s letter dated 18-2-1955.

## Sanitary Engineering Branch (PWD).

C.F. 32( 70,10,558—20-1-54.

14

|             |                                      |                             |            |
|-------------|--------------------------------------|-----------------------------|------------|
| Department  |                                      | Received                    | Registered |
| From (Name) | Sri S. Rajagopalan,<br>D.E., M.I.E., | To                          |            |
| Designation | Sanitary Engineer,                   | The Chief Engineer, P.W.D., |            |
| Station     | Chepauk, Madras.                     | (General & Buildings),      |            |
|             |                                      | Chepauk, Madras.            |            |

Enclosures: No. 3000-W2/55-1, dated 18-2-1955

Sir,

Sub:- Mangalore Water Supply Scheme - Nethravathi river as source - Revised estimate for Rs.84.43 lakhs - Revised administrative approval of Government - Regarding.

Ref:- Chief Engineer's Endt.No.4666 PH-1/55-2 d/7-2-55.

It would appear as if the background of the case has not been correctly appreciated.

2. Sanction was first accorded by the Government for the execution of the infiltration works in the Gurpur river, based on the earlier Investigation Report on the scheme.

3. My recommendations to switch over the source to Nethravathi river was subsequently accepted by the Chief Engineer and the Government.

4. While forecasting the cost of the / scheme with Nethravathi river as source, the comparable items as between the Gurpur scheme and the Nethravathi scheme had to be estimated on the same basis, and so provisions already approved by the Chief Engineer in regard to the Gurpur scheme had to be incorporated in the Nethravathi Scheme estimate. The approximate estimate of Rs.86.85 lakhs for a 20 gallon scheme with Nethravathi river source had to be derived on such basis only, because of the switch-over in the source at the initial stages of execution, and the necessity to display to the Municipality the comparable cost of the two schemes on the same basis.

5. Subsequently, while working out the cost of a 15 gallon scheme, the figure of Rs.68.55 lakhs had to be derived from the corresponding figure of Rs.82.85 lakhs for the 20 gallon scheme. In fact in para 2 of my letter No.2467-W2/53-2 dated 9-2-54 it was specifically stated that "... the figures of cost against the several items of work as shown are comparable to the figures already provided for in the approximate estimate of Rs.82.85 lakhs for which administrative approval has been accorded by the Government in respect of a 20 gallon scheme....".

6. The Sanitary Engineer therefore assumed no more responsibility in regard to the estimated cost of the 15 gallon scheme (with Nethravathi source) than in regard to the estimated cost of the scheme forecast for the Gurpur source and approved by the Chief Engineer.

7. It was, of course, possible to work out the cost of the 20 gallon and 15 gallon schemes, independently of the corresponding cost for the Gurpur scheme and based on current rates ruling at the time; but that would have thrown the comparative basis of the cost of the 3 alternative schemes out of gear. The derivation of the costs of the alternatives could not be placed on different basis. The saving possible in the 15 gallon scheme as against the 20 gallon scheme, and inter alia the cost of the Nethravathi Scheme as against the cost of the Gurpur Scheme had to be worked out on a common basis only. Otherwise, the Municipal Council would not have had the benefit of a correct lead in the matter.

P.T.O.

8. It is obvious that the cost of the Gurpur Scheme, as originally forecast, and for the same reason, the cost of the 20 gallon scheme with Nethravathi Source, would be much more than what was previously forecast, because of the rise in the prices and other factors figuring at the stage of preparation of the detailed plans and estimates. When I suggested that the Administrative Sanction of Government may be obtained for the 15 gallons scheme, I thought such a sanction was necessary in as much as the earlier sanction for the 20 gallons scheme had been withdrawn and the Department could not incur expenditure without a ~~sanction~~ sanction. This is also implied in the Chief Engineer's letter under reference, (vide para 6) where it has been assumed that the earlier sanction is no longer in force.

pp 1-2 and

9. I request that the above factors may be brought to the notice of the Government, so that they may understand the comparative basis on which the figures have been furnished by the Department. As for the figure of Rs.88.23 lakhs as furnished by the Chief Engineer now, it is seen that this figure includes a provision of Rs.3,01,500 plus centage charges etc. of 4 plus 5 plus 15% or roughly Rs.3.77 lakhs, towards "future extension" of the filter plant, expected to be installed 15 years after the inception of the scheme. It is an unusual procedure to seek administrative sanction for a scheme with provision included for items which will not come up for execution for some fifteen years.

*2/18/2*  
CDJ/18-2-55.

S. R. Simindan  
19.2.55  
for Sanitary Engineer.

16 HE (46)  
Mangalore

Water Supply  
Mly. Water Supply  
Scheme with Netravathi  
river as source. Revised  
estimate — Sanctioned.

Read again:

G.O. MS. NO. 1304, Healm, d/ 7-4-53  
" " " " 6-2-53 " d/ 16-3-53

From the CE P.W.D. (G.O.B.)  
NO. 4666 PH. 1/55-1 d/ 1-2-55

From the CE P.W.D. (G.O.B.)  
NO. 4666 PH. 1/55-3 d/ 25-4-55

G.O. 1906 Healm d/ 3/6/55  
MS. In G.O. MS. NO.

1304, Healm, d/ 7-4-53, the  
Govt. had accorded administrative  
approval to the approximate  
estimate of Rs 82.55 lakhs  
for the Mangalore water  
supply scheme for the  
supply of 50 gallons per  
capita with the Netravathi  
river as the source.

Later, in order to effect  
economy without  
sacrificing the utility value  
of the scheme, a revised  
estimate of Rs 68.55 lakhs

on the basis of 15 gallons  
per capita was sanctioned  
in G.O. 626, dated 16.3.54.

192

It is now reported that  
the estimate of Rs 68.55 lakhs  
was not based on current

192

P.W.D. schedule of rates  
but was based on the  
data given in the estimate  
sanctioned in 1949 for the  
scheme with Gundlupet river as  
the source. The C.E. has  
therefore, submitted a revised  
estimate for the scheme  
amounting to Rs 88.23 lakhs  
on the basis of 15 gallons  
per capita.

192

2. The Govt accord  
administrative approval to  
the revised estimate of Rs 88.23  
lakhs submitted by the C.E.  
for the execution of all the  
four stages of the scheme on  
a 15 gallons basis,

192

3. The method of  
revising the scheme being  
determined later. In the  
meantime, loans will be  
sanctioned by the Govt  
to the extent necessary.

To

The C.E. PWD (G.B.)  
(With a copy for the  
Sanitary Engineer,  
the Commr,  
Mangalore City  
Thd. the CMC.  
The AGs (Thd. Fin)  
The Exr of d.F. Accts  
The Fin Dept  
23/5

Rs 28.55.55  
28.55.55

28.55.55

Cm-1077346/55

H.E.L.A. DEPT.(HVI)

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Sub:- Mangalore Water Supply Scheme with Nethravathi River as source - Revised estimate for Rs.88.23 lakhs - Revised administrative approval of Govt.

Ref:- From the C.E., P.W.D., (Gl. and Bldg.),  
No.4666 PH1/55-1 dt. 1-2-55.

From the C.E., P.W.D., (Gl. and Bldg.)  
No.4666 PH1/55-3 dt. 25-4-55.

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The water supply scheme for Mangalore as originally sanctioned in G.O.1304, Health, dt. 7-4-53 provided for the supply of 20 gallons per capita. Subsequently in view of the difficulties in the way of financing costly municipal water supply schemes, the Sanitary Engineer re-examined the details of the above scheme as sanctioned in order to see whether any worthwhile economy could be made in the total cost of the scheme without at the same time sacrificing any essential utility value of the scheme as envisaged. As a result of this re-examination he recommended that the per capita supply might be reduced to 15 gallons as against the original proposal of 20 gallons per capita. The adoption of the above rate of 15 gallons was considered to yield a saving in capital cost to the tune of 14.30 lakhs in the original estimate of the scheme. In the circumstances explained above, the Govt. approved in G.O.626, Health, dt. 16-3-54 the proposal of the Sanitary Engineer to adopt the rate of 15 gallons per capita supply in the water supply scheme for Mangalore.

With reference to the orders in G.O.626, Health, dt. 16-3-54 the Sanitary Engineer was directed by the Chief Engineer to prepare detailed plans and estimates for all the components of the scheme so that administrative sanction for the revised scheme might be obtained from Govt. The Sanitary Engineer has now submitted plans and estimates for the 4 stages of the Mangalore Water Supply Scheme on the basis of 15

15 gallons rate of supply. These estimates total to Rs.84.09 lakhs. The Chief Engineer has made certain corrections and additions and the total estimate for the 15 gallon scheme have been worked out to Rs.88.23 lakhs. The Chief Engineer has requested the administrative sanction of the Govt. for the revised water supply scheme on the 15 gallon basis estimated to cost Rs.88.23 lakhs.

The 20 gallon scheme originally sanctioned in G.O.1304, Health, dt. 7-4-53 was estimated to cost Rs.82.85 lakhs. The cost was ordered to be financed as follows:-

|                    |                 |
|--------------------|-----------------|
| Municipal reserves | Rs.4.11 lakhs.  |
| Govt. grant        | Rs.53.24 lakhs  |
| Loan to be taken   |                 |
| by the Ml. Cl.     | Rs.25.50 lakhs. |

When the scheme was revised on 15 gallon basis a saving of Rs.14.30 lakhs was expected and it was ordered that the grant payable by the Govt. would be reduced to this extent i.e. from Rs.53.24 lakhs to Rs.38.94 lakhs. Towards the loan of Rs.25.50 to be taken by the Ml. Cl. the Govt. sanctioned in 1952-53 a loan of Rs. 8 lakhs and the balance loan of Rs.17.50 lakhs was raised by the Cl. in the open market.

In 1954-55 the Govt. sanctioned a loan of Rs.6,41,600 from out of the <sup>loan</sup> funds provided by the Govt. of India.

The cost of the scheme now worked out comes to Rs.88.23 lakhs. Against this the Cl. has already raised a loan of Rs.31,91,600 <sup>as stated above.</sup> It has to find a further

sum of Rs.56,31,400. At the conference held in the Secretariat on 12-5-55 it has been decided that

~~and~~ the schemes should first be financed by loans <sup>as per</sup> the method of financing the schemes being determined later on. It may be stated in this connection that the question of revising the policy of financing the water supply schemes is under separate consideration.

f ci

1377-1901 S

1378-1901 S

pp 9 10 of 10

not joined up

8 00 . 00  
12 1 00

If the metering system is introduced in the schemes as proposed in that connection, the scheme may be self-supporting and ~~no~~ grant from the Govt. may be ~~necessary~~ *reduced*.

A copy of the C.E.'s letter on pp.1-2 c.f. together with its enclosures may be forwarded to the Ml. Commr. and he may be told that the Govt. will sanction loans to the extent necessary for financing the scheme in the first instance, the actual method of financing the scheme being determined later on. The Commr. may be asked to ascertain and forward to the Govt. the views of the Cl. in the matter. A draft Memo is submitted for approval.

A reference is invited in this connection to the letter from the C.E. at pp.12-13 c.f. This deals with certain misunderstandings between the C.E. and the S.E. on the preparation of the estimate for the revised scheme on the 15 gallon basis. No action seems necessary with reference to this letter.

Fin. may see before the Memo is issued.

*The method of financing the Mangalore W.S. scheme has already been decided upon and administrative approval to the scheme given - vide G.O. 26 Health dated 16-3-54. The present proposal is for revised administrative approval for a revised estimate of Rs 84.23 lakhs as against Rs 68.55 lakhs*

*See below  
av  
16.5.55*

*cc'd  
16.5.55*

*24* (M)

originally estimated for a 15 gallon scheme. If the proposal of the metering system is approved, adjustment in the method of financing will have to be made. The revised estimate viz Rs 88.23 lakhs may be approved and the ~~rest of~~ question of what amount should be given as grant need not be considered now. The M.C.C. has already raised a loan of about nearly 32 lakhs and this will be sufficient for the ~~present~~ ~~to start~~ execution of the work for some time. It does not seem therefore necessary to address the M.C.C. now.

ar

16.5.55

may be stated in the dept. - this is not jointly with the M.C.C. is progressing

FS

16.5.55

17.5.55 Secy (Fin)

HECA S.O. No. 10773 16/55  
16/5/55



P.T.

p 4 above

(Orders of Secretary on p. 4 above)

Resubmitted.

2. The Mangalore Water Supply Scheme for the supply of 20 gallons per capita originally sanctioned in G.O. Ms. No. 1304, Health, dt. 7-4-53 was estimated to cost of Rs 82.85 lakhs. The cost was ordered to be financed as follows:--

|                                       | Rs. (lakhs) |
|---------------------------------------|-------------|
| Municipal reserves                    | 4.11        |
| Government grant                      | 53.24       |
| Loan to be taken by Municipal Council | 25.50       |
|                                       | -----       |
|                                       | 82.85       |
|                                       | -----       |

Later, in order to effect economy without sacrificing the utility value of the scheme, a revised estimate of Rs 68.55 lakhs on 15 gallon basis per capita was sanctioned. The cost of the revised scheme was ordered to be financed as shown below:

|                                           | Rs (Lakhs) |
|-------------------------------------------|------------|
| Municipal Reserves                        | 4.11       |
| Government grant                          | 38.94      |
| Loan to be taken by the Municipal Council | 25.50      |
|                                           | -----      |
|                                           | 68.55      |
|                                           | -----      |

3. It is now reported that the estimate of Rs 68.55 lakhs sanctioned in March 1954 was not based on current P.W.D. Schedule of rates but was based on the data given in an estimate sanctioned in 1949 for the scheme with Gurpur river as the source. Detailed plans and estimates have accordingly been prepared now based on the schedule of rates current.

The revised estimate prepared by the Sanitary Engineer for four stages of the scheme accordingly works out to Rs 84.09 lakhs. A few corrections and additions have been made by the Chief Engineer and the total estimated cost of 15 gallon scheme has been worked out as Rs 88.23 lakhs.

pp 77-79 of ③

✓ K on p 79 of ③

N on pp 78-79 of ③

p 9-10 of ③

p 2 above

p 2, on pp 9-10 of ③

para 2 on p 12 of ③

paras 4 &amp; 5 on p 10 of ③

para 5

- 00 -

H 6

10223  
534/28-5

p4 above

4. H.E.L.A. propose to accord administrative sanction to the above revised estimate of Rs 88.23 lakhs. As noted by H.E.L.A., if the metering system is introduced in the Water Supply Scheme generally - as proposed in a separate file, adjustment in the method of financing <sup>this scheme</sup> will have to be made. The proposal of H.E.L.A. to approve the scheme leaving the question of amount of grant to be given by the Govt. for future consideration may be accepted in Finance. It is stated <sup>that</sup> the loan of Rs 32 lakhs already raised by the Council will be sufficient for the execution of the works in the first two stages, of the scheme for some time.

(C) in circulation for etc.

p4 above  
C. 12. 12

M (F & E) may see.

25/5/55

HECLA

(C-E. has already accorded technical sanction for the first 2 stages estimated to cost Rs 46 lakhs)

Fin no 39598-8A/55

HECLA (H)

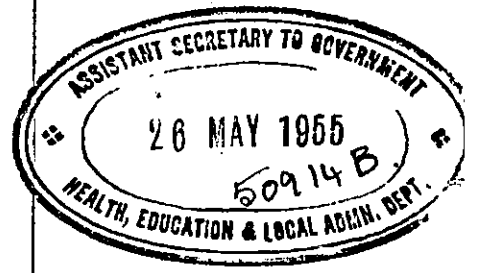
26.5.55

Note of Finance from p5 ante. may be perused.

A draft order is submitted.

May be circulated to

to (H) and M (F & E) for approval.



28/5/55  
ce

28/5/55

J.S.  
K. Anil Kumar  
28.5.55

(H) 28/5

(F & E) Subramanian  
1.6.55

